

**Abstract**

An electrical transducer using the two-wire process has a sensor outputting a value corresponding to the quantity which is to be measured, an analog end stage that is connected downstream of the sensor, a processor circuit, and an analog measurement signal transmission path. The end stage converts the output signal of the sensor into an impressed output current with a magnitude which is a measure of the quantity to be measured, wherein and the electronic transducer can be controlled with the processor circuit. Furthermore, the electrical transducer can be scaled by the user, has low inherent power consumption and still ensures high response speed in that the processor circuit in normal operation is shifted temporarily into a sleep mode, in the analog measurement signal transmission path an analog scaling unit is inserted, the output signal of the sensor and at least one analog setting value are supplied to the analog scaling unit, and the output signal of the analog scaling unit is supplied to the analog end stage.